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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,178	03/31/2000	Stephen R. Vogel	DIVA-244	2614

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EXAMINER	
HOYE, MICHAEL W	
ART UNIT	**PAPER NUMBER**
2623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/540,178	VOGEL ET AL.	
	Examiner	Art Unit	
	Michael W. Hoye	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicants' arguments with respect to claims 1-14 and 26 have been considered but are moot in view of the new grounds of rejection.

Regarding independent claim 1, the Applicants argue that, "neither Imanaka nor Sawicz mentions head-end controllers and the combination would not result in a number of head-end controllers coupled to each server module via at least two signal paths, wherein each communication between a head-end controller and a server module is coincidentally sent through the two signal paths as claimed."

In response, the Examiner respectfully disagrees with the Applicants because the claimed "plurality of head-end controllers coupled to each server module of said plurality of server modules via at least two signal paths" is met by video distribution boxes (VDBs) 18 as shown in Figs.2 and 6. In addition to, the claimed "wherein each communication between a head-end controller and as server module is coincidentally sent through the at least two signal paths" is not explicitly disclosed by the Sawicz et al reference. However, the Imanaka et al reference teaches a redundancy method for communication between a plurality of nodes constituting a distributed control system, wherein each communication between a server node another control module is coincidentally sent between two signal paths (see Fig. 1, the Abstract and col. 4, lines 18-18), or in other words, transmission data from servers are concurrently sent to both communication lines 1 and 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Sawicz et al with Imanaka et al, which teaches the ability

to coincidentally send two signals through two signal paths, as described above, for the advantage of providing a redundant communication line so that the system would ensure signal reception if a problem or fault occurs with one of the communication lines.

Regarding dependent claim 11, the Applicants argue that, "The computer memory system of Dietz is different that the claimed video distribution system...Dietz fails to teach or suggest the claimed head-end controllers of the video distribution system. There is no motivation or suggestion in the disclosure of the computer memory system of Dietz or the other references cited to make a combination..."

In response to Applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the head-end controllers of the video distribution system are met by the Sawicz reference as described above, and the Deitz et al reference teaches a "pinging" system that periodically queries controllers to see if the controllers are operational.

Regarding dependent claim 12, the Applicants argue that, "Miyamoto fails to teach or suggest the claimed head-end controllers of the video distribution system. There is no motivation or suggestion in the disclosure of the client server alternation control system of Miyamoto or the other references to make a combination for the claimed video distribution system..."

In response to Applicants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the head-end controllers of the video distribution system are met by the Sawicz reference as described above, and the Miyamoto et al teaches status registers that store the state of the system controllers to indicate whether or not that section of the system is operational or has failed (col. 11, lines 16-60), see the rejection of claim 12 as described in the rejection below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawicz et al (USPN 5,889,775), in view of Imanaka (EP 0854610 A2), both cited by the Applicants.

As to claim 1, note the Sawicz et al reference which discloses a video distribution system (10) having provider equipment including a head-end, and associated subscriber equipment (see Fig. 2). The claimed "server comprising a plurality of server modules for storing content" is met by the various entertainment servers ("ES") 24 as shown in Fig. 2 (i.e. servers 34, 36, 38 and 40, also see col. 4, lines 35-42 and col. 5, lines 5-15). The claimed "video switch coupled to each of said server modules at said head-end for forwarding requested content from at least one of said plurality of server modules to said subscriber equipment" is met by entertainment switching unit (ESU) 22 (Fig. 2), which includes a large matrix switch 90 (Fig. 6) and crosspoint switches 137. The claimed "plurality of head-end controllers coupled to each server module of said plurality of server modules via at least two signal paths" is met by video distribution boxes (VDBs) 18 as shown in Figs.2 and 6. The claimed "wherein each communication between a head-end controller and as server module is coincidentally sent through the at least two signal paths" is not explicitly disclosed by the Sawicz et al reference. However, the Imanaka et al reference teaches a redundancy method for communication between a plurality of nodes constituting a distributed

control system, wherein each communication between a server node another control module is coincidentally sent between two signal paths (see Fig. 1, the Abstract and col. 4, lines 18-18), or in other words, transmission data from servers are concurrently sent to both communication lines 1 and 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined Sawicz et al with Imanaka et al, which teaches the ability to coincidentally send two signals through two signal paths, as described above, for the advantage of providing a redundant communication line so that the system would ensure signal reception if a problem or fault occurs with one of the communication lines.

As to claim 2, the claimed "wherein said plurality of subscriber equipment interact with said at least one head-end controller and server for receiving video information upon request" is met by a passenger selected video film or video on demand (VOD) (see col. 6, lines 35-46).

As to claim 3, the claimed "wherein said at least two signal paths comprise: at least two switches coupled between said at least one head-end controller and each of the server modules within said plurality of server modules" is met by the plurality of switches 137, which are coupled between the head-end controllers 18 and servers 24, as shown in Fig. 6 and as described above in claim 1.

As to claim 4, the Imanaka et al reference, as combined above with Sawicz et al, further teaches the ability to send redundant messages across a network to a server module and the ability to discard messages that have already been received (see col. 5, lines 2-24, where identical reception data is sent, and if it is determined that identical data has already been received, the data which is received later is discarded). Furthermore, these signals must travel

through switches, controllers, and servers since they are sent through a large network (see Fig. 1).

As to claim 5, the claimed "said one of said server modules disregards either said initial message or said redundant message arriving last" is further met by Imanaka et al which teaches disregarding either the initial or redundant message (see col. 5, lines 2-24), where identical reception data (a message) is sent, and the message received last is discarded.

As to claim 6, the Imanaka reference further teaches that multiple acknowledgement data is routed from one server module to another controller (see col. 7, line 45 - col. 8, line 26, abnormality detection process, pieces of identification information and received data and pieces of corresponding reception time information are registered in system-A queue and system-B queue). Imanaka also discloses disregarding either the initial or redundant message (see col. 5, lines 2-24, where identical reception data is sent, and the data which is received later or last is discarded).

As to claim 7, the Imanaka reference discloses disregarding either the initial or redundant message as previously described above (see col. 5, lines 2-24, where identical reception data is sent, and either of the data which is received later or last is discarded).

As to claim 8, the Sawicz et al reference discloses that the switch (ESU 22/matrix switch 90) has a plurality of I/O ports coupled to the server modules (24 – (34, 36, 38, 40)) and subscriber equipment (14, 16, 271, etc.) for transferring the information (Figs. 2 and 6). Sawicz further discloses the claimed at least two switch controllers coupled to a head-end controller (Figs. 2 and 6, item 29 (communication control unit (CCU 29) has two subsystems see col. 7, lines 7-41 and col. 13, lines 35-45); ESU 22/matrix switch 90) and the I/O ports. As shown in

the figures, the matrix switch is a plurality of switches. The two subsystems contained within the CCU 29 are partitioned to continue to function if the other subsystem fails, which is known as fault independent (see col. 13, lines 35-41 as described above).

As to claim 9, Sawicz shows that the switch controller (CCU 29 – first subsystem) is coupled to said at least one head-end controller via one of at least two switches, and said secondary switch controller (CCU 29 - second subsystem) is coupled to said at least one head-end controller via said at least two switches (Figs. 2 and 6).

As to claim 10, all the limitations of the claim have been discussed with regards to claim 9.

As to claim 26, Sawicz further shows a plurality of access controllers (which are also part of the VDBs 18) coupled to each head-end controller (18) and said video switch (ESU 22/matrix switch 90) (Figs. 2 and 6), said access controllers for forwarding said requested content from said video switch to said subscriber equipment in response to a request for content from said subscriber equipment.

4. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sawicz et al (USPN 5,889,775), in view of Imanaka et al (EP 0854610 A2), in further view of Deitz et al (6,578,158).

As to claim 11, Sawicz further teaches a switch processor (microprocessor 143) within the switch for processing control commands between the head-end controllers and switch controllers, and between the controllers and the I/O ports (see col. 9, lines 37-64, col. 7, lines 7-

41 and col. 13, lines 4-11 and 35-45), in addition to, in col. 7 of the cited sections above, Sawicz discloses that the switch matrix switches are integrated circuit (IC) switches.

Sawicz et al as combined with Imanaka et al fails to show a timer for periodically querying the operational status of the controllers. However, the Deitz et al reference teaches a "pinging" system that periodically queries controllers to see if the controllers are operational (col. 7 lines 32-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Sawicz et al and Imanaka et al references with the ability to query the switch controllers, as shown in Dietz et al, so that the system would know when a switch has failed and the status of an operational switch.

5. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sawicz et al (USPN 5,889,775), in view of Imanaka et al (EP 0854610 A2), in further view of Deitz et al (USPN 6,578,158), and in further view of Miyamoto et al (USPN 5,845,061).

As to claim 12, the Deitz reference discloses the ability to send periodic messages, or pinging, to controllers and the ability to indicate a problem when a certain time elapses. Furthermore, if these messages are periodic, it is inherent that there is some type of timer coupled to the sending apparatus (col. 6, lines 63 – col. 7, line 1, and col. 7, lines 32-52). Also, although not specifically stated, it is inherent that the system must have a control registers to receive and store commands from the switch controller. Without this equipment, the system would not route signals properly or execute commands correctly. Sawicz also teaches the use of a dynamic memory table that is updated after each new connection is made for I/O connections (see col. 13, lines 4-11). Sawicz, Imanaka and Deitz fail to show a plurality of status registers.

However, Miyamoto et al teaches status registers that store the state of the system controllers to indicate whether or not that section of the system is operational or has failed (col. 11, lines 16-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Sawicz, Imanaka, and Deitz with the status registers so that the system would be able to store the condition of the system for reference.

As to claim 13, Miyamoto further discloses pinging, or polling messages, to the system for information (col. 11, lines 1-13). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (see col. 11, line 1 – col. 12, line 67). It is also inherent that the status of the system is stored as bits.

As to claim 14, Miyamoto further shows polling messages to the system for information (col. 11 lines 1-13). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (col. 11, line 1 – col. 12, line 67). It is also inherent that the status of the system is stored as bits. Deitz also shows registering an error if an elapsed time has occurred between polling messages (col. 6, line 63 – col. 7, line 1).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael W. Hoye whose telephone number is **571-272-7346**. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at **571-272-7353**.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **571-272-2600**.

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Michael W. Hoye
March 17, 2007

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600